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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/615,978	07/10/2003	Kazuhisa Murata	614.1963D	1261
21171	7590	07/12/2005	EXAMINER	
STAAS & HALSEY LLP SUITE 700 1201 NEW YORK AVENUE, N.W. WASHINGTON, DC 20005			PAYNE, DAVID C	
			ART UNIT	PAPER NUMBER
			2638	

DATE MAILED: 07/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	Application No.	Applicant(s)
	10/615,978	MURATA, KAZUHISA
	Examiner David C. Payne	Art Unit 2638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 07 January 2005.

2a)  This action is FINAL. 2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 4,7,8 and 12-20 is/are pending in the application.  
4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

5)  Claim(s) 4,7,8,19 and 20 is/are allowed.

6)  Claim(s) 12-18 is/are rejected.

7)  Claim(s) \_\_\_\_\_ is/are objected to.

8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 07 January 2005 is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)  Notice of References Cited (PTO-892)  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948)  
3)  Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date .

4)  Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_ .

5)  Notice of Informal Patent Application (PTO-152)

6)  Other: \_\_\_\_ .

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**DETAILED ACTION**

***Response to Arguments***

1. Applicant's arguments with respect to claims 12-18 have been considered but are moot in view of the new ground(s) of rejection.

***Allowable Subject Matter***

2. The indicated allowability of claims 12-18 are withdrawn in view of the newly discovered reference(s) to Campana, Jr. et al. US 5745532 A. Rejections based on the newly cited reference(s) follow.
3. Claims 4, 7, 8, 19 and 20 are allowed.

***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 12-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Campana, Jr. et al. US 5745532 A (Campana).

Re claims 12-18, Campana disclosed

an apparatus that utilizes a time offset protocol which modulates a subcarrier to produce first and second encoded parallel information streams each comprising preferably identical information to be atmospherically transmitted which are separated by a time delay interval equal to or greater in length than a time duration of atmospheric fading. First and second encoded information streams which are time offset by the time delay interval and which are preferably identical modulate the subcarrier to

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produce the first and second parallel information streams that respectively contain the first and second encoded information streams. The first and second parallel information streams are identical when the first and second encoded message streams modulating the subcarrier are identical. An error marker is placed within each of the frames of the first and second parallel information streams which have at least one erroneous uncorrectable bit after processing of the bits of the frame with the error correction code to mark each frame within the faded information requiring replacement. Each error marker within at least one of the first and second parallel information streams is replaced with replacement bits from a frame within one of the first and second parallel information streams which is time offset at transmission by the time delay interval to produce error free wireless transmission of information. Even if the first and second parallel information streams are not identical which prevents reconstruction of error free information, the probability of error is lessened because synchronization is not lost and, furthermore, the transmission rate of information is increased when compared to the prior art. Transmission of identical parallel information streams modulating the subcarrier with a time offset greater than statistically probable fade durations provides a high probability that the receiving circuitry is able to process the transmitted information transmitted at a high rate to eliminate erroneous information caused by fades while using reduced radiated power, see e.g., col./lines: 3/5-55.

Furthermore, the invention is able to reduce the number of bits of error correction code that are present in each transmitted frame of the first and second parallel information streams. The replacement of erroneous information units by processing of the decoded first and second parallel information streams can correct errors caused by fades which otherwise would be corrected by processing with an error correction routine using additional error correction code bits within the frames of the first and second parallel information streams. Therefore, a higher throughput of bits encoding information and a lower throughput of bits encoding error correction code is achieved. As a result, the information or data throughput of the system is increased by reducing error correction code overhead by permitting reduction of the number of error correction bits from those necessary to correct for two bit errors to those necessary to correct for one bit errors, see e.g., col./lines: 24/55-67,

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25/1-10. (148)

Campana does not disclose that the error correction bit are of a specified number as claimed.

However, it would have been obvious to one of ordinary skill in the art at the time of invention that if the higher throughput of data bits and lower throughput of error correction bits would lead to a condition of a lower error correction bit count as claimed. Furthermore, error correction scheme is applicable to the optical medium as it is to RF since the encoding mechanism is independent of the physical layer protocol.

### **Conclusion**

6. Any inquiry concerning this communication or earlier communications from the examiner should be directed to David C. Payne whose telephone number is (571) 272-3024. The examiner can normally be reached on M-F, 7a-4p.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Dcp

  
David C. Payne  
Patent Examiner  
AU 2638